BANGALORE ELECTRICITY SUPPLY COMPANY LIMITED

"Selection of Service Provider for Sale of Smart Meters to prospective consumers on rate contract basis in retail outlets for arranging power supply to new connections (including temporary installations) along with Supply, Implementation, Commissioning of IT system for a period of 5 years & Maintenance of IT system for a period of 10 years in BESCOM Jurisdiction." vide Tender Enquiry No. BESCOM/2024-25/SE0193"

Annexure F
SERVICE LEVEL AGREEMENT (SLA)

1.1. Service Level Agreement (SLA)

Service Level Agreement (SLA) shall be monitored as mentioned in the following table. It is expected that the AMI system shall meet the minimum threshold of service defined against each level. Any degradation below this minimum threshold will attract penalties as per bands of service level met. The idea is that it triggers a proper review of any defect / failure / performance that had been agreed upon for the project, and to find resolutions in keeping with the highest standards of service excellence. The total penalties under SLA categories are capped at [10%] of SP Service Charge. SP shall ensure that the data collection and computation for the purpose of SLA penalties (as mentioned in the following table) should be automated and visualized in Utility Interface as per Clause 2.3 of Annexure D of this Section.

For this purpose, each of the designated scheduled tasks in the following table, shall signal[6] the SLA computation application to record the start time. The same designated tasks shall generate mile-stone signals[7] in order that the SLA application is able to record times when various thresholds (as indicated in the table) of meter population have responded. For system level availability, the SLA computation application shall offer a ticketing system which shall be used by the Utility &/or SP to raise an incident against any line item at corresponding severity level. The incident originator shall select the severity level followed by selecting the incident description available as a drop- down list within the SLA application. The ticketing system shall follow a process flow such that,

a) The SP's response along with time of response are recorded. This 'response' may be a simple acknowledgement of the incident or a rejection of the incident as not being part of its 'scope of work' with adequate explanation.
b) Utility's acknowledgement or rejection of SP 'response' along with time are recorded. If utility acknowledges the incident to be irrelevant to SP's scope of work, then the incident is immediately closed, and no further records are maintained for this incident[8].
c) Resolution &/or workarounds are recorded and submitted by SP along with time.
d) In case of enhancements and change requests, SP's Plan of Action (POA) and schedule are recorded.
e) SP's POA and schedule (for enhancements and change requests) are approved by utility.
f) Resolution as submitted by SP is approved by utility and the incident closed. In case of rejection of resolution, the incident shall remain live and shall have to be re-worked by the SP.
g) All submittals, acknowledgements, approvals/agreements shall have system generated time stamps by default. There shall be also provision for a separate manual entry of time stamps.

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[6] This signal shall be always automated, and the SLA Application would know precise number of meters involved.

[7] Alternate provision may be kept for manual entry of time for such mile-stone signals but with proper backup monitoring report made available.

[8] The first two process steps in the ticketing system of the SLA App shall ensure complete agreement between Utility and SP, before an incident is accepted for resolution.

Data Type	Performance Requirement (Averaged over a month)[1]	Penalty	SLA Penalty Calculation (For understanding purpose only)
A. Scheduled Tasks			
1. Scheduled Interval data readings			
Periodic collection of the interval load profile data for the day[2]	From 95% of meters within 8 hours	Deduction of 0.2% of SP Service Charge for every 1% or part there of capped at 1% penalty	Maximum Penalty of 1% if action takes place for <91% of meters
2. Scheduled Interval data readings			
Periodic collection of the interval load profile data for the day[3]	From 98% of meters within 12 hours	Deduction of 0.2% of SP Service Charge for every 1% or part there of capped at 1% penalty	Maximum Penalty of 1% if action takes place for <94% of meters
3. Scheduled daily meter readings			
Previous days[4] interval energy and total accumulated energy	From 99.0% of meters within 24 hours after midnight	Deduction of 0.2% of SP Service Charge for every 1% or part there of capped at 2% penalty	Maximum Penalty of 2% if action takes place for <90.5% of meters
4. Scheduled billing profile data for the bill period			

Collection of billing data for the bill period	From 99.0% of meters within 72 hours of the scheduled periodic collection/ end of the billing period and From remaining 1.0% of meters within 168 hours of the scheduled periodic collection/ end of the billing period.	Deduction of 0.5% of SP Service Charge for every 0.5% or part there of capped at 3% penalty	Maximum Penalty of 3% if action takes place for <97.5% of meters

[1] Local intervention allowed to achieve SLAs
[2] Assuming interval of 30 minutes. <In case, Utility aims to change the interval, accordingly the performance requirement may need to be changed>
[3] Assuming interval of 30 minutes. <In case, Utility aims to change the interval, accordingly the performance requirement may need to be changed>
[4] All previous days from the last billing cycle

Note:

- Periodic collection of the load data for the day starts from 00:00 Hrs.
- The day is considered from 00:00 Hrs to 23:59 Hrs

Data Type	Performance Requirement (Averaged over a month)[1]	Penalty	SLA Penalty Calculation (For understanding purpose only)
5. DELETED			
6. DELETED			
B. Remote Actions / tasks performed by AMI System			
7. For remote connect/disconnect with acknowledgement/ response for selected meters			
Remote connect / disconnect of the AMI meters	Action performed at 90% of meters within 15 minutes	Deduction of 0.5% of SP Service Charge for every 0.5% or part there of capped at 2.0% penalty	Maximum Penalty of 2.0% if within 15 minutes, delivery takes place for <88.5% of meters

8. For remote connect/disconnect with acknowledgement/ response for selected meters			
Remote connect / disconnect of the AMI meters	Action performed 98.0% of meters within 6 hours	Deduction of 0.25% of SP Service Charge for every 0.5% or part there of capped at 1.0% penalty	Maximum Penalty of 1.0% if within 6 hours, delivery takes place for <98% of meters
9. Remotely top-up amount (for pre-paid application only)			
Delivery of top up amount/ credit recharge in case of prepayment post successful transaction from payment gateway up to consumer interface[7]	99.9% meters within 30 minutes (delivered and intimated to consumer)	Deduction of 0.5% of SP Service Charge for delay of every 0.5% or part there of capped at 3.0% penalty	Maximum Penalty of 3.0% if within 30 minutes, delivery takes place for <97.4% of meters

Data Type	Performance Requirement (Averaged over a month)[1]	Penalty	SLA Penalty Calculation (For understanding purpose only)
C. System Availability			
10. Availability of AMI System per month			
Availability of AMI System per month	≥99.5%	Deduction of 0.4% of SP Service Charge for every 0.5% or part there of reduction in availability capped at 4.0% penalty	Maximum penalty of 4% shall be deducted when system availability is <95.0%

[7] Delay in delivery of credit recharge information to payment gateway or Utility Billing System excluded from the SLA measurement

Notes:

1. Daily Statistics containing the details like Disconnection, Reconnection, daily energy audit, monthly energy audit and more shall be submitted to the

BESCOM Officers.

2. Manual Metering is done in every quarter on rotational basis. 5% of the total meters of particular category in each quarter.
3. Daily/Monthly/other Reports shall be generated automatically.
4. Healthiness of the Software/IT system shall be displayed on the Dashboard Logins provided to the BESCOM OFFICERS every day.
5. Maximum Penalty out of the above shall be restricted at 10% of SP Service Charge. The deduction shall be computed as SP Service Charge X penalty % as computed in above table
6. The penalty, as mentioned above, shall be computed as per the performance deviated from the performance requirement. For instance, for SLA "Periodic collection of the interval load profile data for the day", if within 8 hours, data is received from only 94.6% meters which means deviation of 0.4%, then the penalty shall be computed as $!(\frac{\max(0.4\%,1\%)/1\%)}{1\%}$ X 0.2%(= 0.2%.
7. Averaged over a month means weighted average performance from meter population over a predefined time interval. For instance,

a. Assuming on i^{th} day or event, action was done on y_i% of total meters and within stipulated time, data was received from z_i% of y_i% meters. So, the average SLA over the month shall be computed as $\frac{\sum z_i \times y_i}{\sum y_i}$

b. For system availability, the availability is computed as

(THM-(S1*1+S2*0.8+S3*0.5))/ THM

Where THM is total hours in the month when power supply to AMI system is available,

S1/S2/S3 is the total non- available hours in Severity Level-1/Level-2/ Level-3

Please refer to Annexure-I for more details on the same.

8. SP shall submit AMI generated reports for cases mentioned above based on data available in HES/MDM
9. Exclusions: Power Outages, Meter bypass by consumers, Local Temporary/ Permanent disconnection by BESCOM, Meter burnt shall be excluded from above SLA calculations. For these cases, joint visit of SP and BESCOM officials shall be carried out and field inspection report shall be submitted by SP to BESCOM for suitable action.
10. For the purpose of joint visit, SP shall put a request to BESCOM who should allocate manpower for joint visit within 1 working day. In case of non-allocation/ non-availability of manpower from BESCOM, the report submitted by SP shall be final and actionable by BESCOM.
11. The penalties would be computed on the basis of performance of SP for a

calendar month.

12. SP shall be responsible for collection of billing data for all Smart Meters within a week of the scheduled periodic collection/ end of the billing period.

1.2. Duties of BESCOM officials and SP during Operations and Maintenance Phase

The table in this section provides a summary definition of the roles and responsibilities of the SP and the BESCOM during operation and maintenance phase of the AMI Project.

Legend:

- This indicates who has primary responsibility to perform this function

F: Feedback

Item	Task	BESCOM	SP
1.0	**Problem Identification**		
1.1	Root cause analysis to determine whether the fault is attributable to Hardware or Software.	F	•
1.2	Resolution of problems involving third party maintainer where there is uncertainty whether the root cause is hardware or software.	F	•
2.0	**Software Problem Resolution**		
2.1	Report problem and assist with problem identification	F	•
2.2	Provide or recommend corrections, temporary patches, work arounds or other fixes to system problems	F	•
2.3	Install and test corrections, temporary patches, workarounds or other fixes to system problems	F	•
3.0	**Routine Software (including MDM, HES, Utility Interface, Consumer app/portal) Support**		
3.1	Build and maintain database, displays and reports	F	•
3.2	Perform system back-ups	F	•
3.3	Restore or reinstall software from back-ups	F	•
3.4	Monitor system logs (part of remote monitoring service)	F	•
3.5	Maintain system logs	F	•
3.6	Maintain user accounts	F	•
4.0	**Hardware (including meter, DCUs, routers, network operation and monitoring center etc.) Problem**		

	Resolution		
4.1	Report problem and assist with defining problem	F	•
4.2	Troubleshoot problem to diagnose if it is software-related or hardware-related	F	•
4.3	Identify failed component, replace failed components in the system using parts from spares inventory	F	•
4.4	Restore operation of repaired/replaced equipment	F	•
5.0	**Hardware Spare Parts**		
5.1	Manage local spares inventory	F	•
5.2	Replenish local spares inventory	F	•
6.0	**Integration and Database Work at NOMC End**		
6.1	Field Device Integration	F	•
6.2	Other System Integration	F	•
7.0	**Cyber Security Monitoring**		
7.1	**Patch Updates**	F	•
7.2	**Cyber Security Monitoring**	F	•
7.3	**Bi-Annual Audits**	F	•
7.4	**Implementation of Recommendations during Audit**	F	•
8.	**Manual Meter Read Through HHU In Case of Non-Communication of Smart Meters**	F	•

Sd/-
General Manager(Ele.)
DAS, SG&TIC,
BESCOM

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